The cognitive Art of Educational Technology Monday 2:30-3:30

This is a chat, not a lecture. Will show the why behind the how. Get stuff from short term to long term. When you go home look up Netsquirrel.com

Text flying in from right is better.

What does Jean Pieget have to do with us.

Constructivism Goal oriented assimilation, accommodation, equilibration

Vygotsky’s Theory

Concepts, functions learning from others, scaffolding idea.

Information processing Theory When you are creating tech for the classroom you need to realize that we are in a wordld of stimulus. .04-4 seconds Capacity very large Content resembles original sensation

Perception- gestalt.

You have to get the student’s attention. In powerpoint do something to get attention. Use motion sparingly, only when you want attention. Intensity- Novelty-Incongruity- emotion- personal significance-social clues

Make lists short- don’t overwhelm students so that it can go to long term memory. 7 new items can go into memory at one point in time. More if you can tie it back into what students already know.

Working memory- Storage and work space for thoughts, 5-20 seconds for new information

To get to long term memory the students have to do something, rehearsal, encoding, retrieval, response. Repeating words puts it back into working memory- not very efficient, but it does work.

Schemata Theory

General implications

Hidden pix , pictures of students, look through toilet paper tubes to focus, multiple backgrounds- certain color for on the test, the entire slide stands out.

Eliminate distractions- the brain cannot multitask. You can only do one thing at a time. If they are distracted their memory decreases. Good at short term memory very very quickly are good multitaskers. One burner stove, 7 pots. If a person is interrupted they only retain 50% .

Emotion affects Learning

Specific Implecations for Classroom

Content Preparation

* Plan how you will get the student’s attention emotion matters
* Structure your content
* Use styles with Heading accessible to people with disabilities
* Chunk! Use bullets 4 items per chunk? Not true.
* Make it important : text size , weight , and decoration
* Don’t make the student search for what is important
* Use images for new information, but be careful about cognitive load If picture is just there for decoration- that is a bad thing.

Fonts

* Don’t underline- it draws a line on the decenders, causes problems with reading.
* Avoid all uppercase, italics or bold
* Use different fonts only for emphasis or to specify different classes of information.
* Don’t use different colors to impart information. People are color blind.
* Use fonts that are easy to read.
* Use font size of whatever you can see
* Make sure there is a lot of contrast between the text and background. Prefer screen fonts: named for city on Mac.
* Pick a standard font and stick with it.

Colors

* Red & Blue and Red Green are not good together

Animation & Sound

* Use novel things, not over and over

Use Real examples

Clear and to the Point by Kosslyn,, SM(2007)

Brain Rules by Medina, J (2008)

http:// netsquirrel.com